2006 VEHICLE SPECIFICATIONS

AND

BID REQUIREMENTS

FOR

PARATRANSIT BUSES

Prepared December 2005

Department of Transportation
Division of Mass Transportation

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SPECIFICATIONS FOR PARATRANSIT BUS

1.0 SCOPE

1.1 The basic vehicle, both chassis and body, must be a current year factory production cutaway model that is catalogued by the manufacturer and for which manufacturer's published literature and printed specifications are currently available. The manufacturer shall be ISO 9001:2000 certified for the design, sale, manufacture of customized buses and multipurpose passenger vehicles. **A copy of this certification must be provided prior to bid award.**

1.2 This specification is intended for use in the purchase of a complete vehicle unit and all equipment and accessories necessary for its operation. All parts shall be new. All parts, equipment, and accessories shall be completely installed, assembled and/or adjusted as required. Each unit is to be equipped with a right side mobility aid lift and door. Lift Doors shall be double, single door will not be accepted.

2.0 APPLICABLE STANDARDS, LAW AND REGULATIONS

2.1 The following standards, law and regulations of the issue in effect on the date of the Invitation for Bid form a part of this specification to the extent specified herein. The bus is required to meet all regulations, standards and laws including revisions, at time of bus acceptance.

- Federal Motor Vehicle Safety Standards (FMVSS)
- Code of Federal Regulations, Title 49, Chapter V-National Safety Bureau
- California Code of Regulations (CCR), Title 13
- Americans With Disabilities Act (ADA) Accessibility Specifications for Transportation Vehicles, 49 CFR, Part 38, Subpart B – Buses, Vans and Systems
- California Vehicle Code
- California Health and Safety Code
- California Air Resources Board Regulations
- OEM Body Builders Standards and Guidelines
  National Fire Protection Agency Regulations 52

3.0 VEHICLE TYPES:

Vehicles shall conform to the requirements of the following table:

TABLE 1

VEHICLE TYPE	I-A	I-B	II Short	II Standard	III
SPECIFICATIONS					
Number of Wheelchair Positions	2 ***	2 ***	2	2	2
Lift Position*	Front** or Rear	Front** or Rear	Front only	Front** or Rear ****	Front** or Rea
Minimum Number of Ambulatory Seat Positions with lift placement in: Front---Rear**	7 Front,8 Rear	8 Front or Rear	11	13Frt,14 Rear	15 Frt,16 Rear
Minimum Gross **OEM** Vehicle Weight rating in lbs.	10700	12300	14050	14050	14,050
Wheel Base (Inches)	138	139	158	158	176
Minimum Entrance Door Height (Inches)	72	72	75	75	75
Minimum Clear Entrance Door Width (Inches) with rear lift	30***	30***	30	30	30
Minimum Engine Size (Liters)	5.4L	6.0L	6.8L	6.8	6.8

* Rear indicates a lift position behind the rear axle.

** Front lift positions must be made available for all types at no additional charge. The minimum number of seat positions as described in the table above must be made available at the same price as a rear lift with credit given for the single seat that is not available in the Type IA,Type II Standard, and Type III Front lift floor plans. The specific floor plans will be decided between the purchaser and the successful bidder. Seat credit must be given for floor plans chosen that reduce seating capacity or plans that substitute optional seating for standard seating.

*** 27" minimum front entrance with a front lift, larger door required if space is available to allow it at no added cost, on Type I only. Front lift position on Type I results in only 1 standard wheelchair position on both Type IA and IB, and 7 passenger seats on the Type IA.

**** Front lift will require flat floor option on Type II Standard Bus, at added cost.

OEM – Original Equipment Manufacturer (First Stage Manufacturer)

4.0 SPECIFICATION REQUIREMENTS

These specifications apply to all components of vehicle Types I through III unless specifically stated within specifications.

4.1 VEHICLE LOADING: In no case shall the vehicle Gross Vehicle Weight Rating (GVWR) or the front or rear gross axle weight rating (GAWR) or any components therein, exceed the OEM Chassis rating, when the vehicle with all options installed is fully loaded with passengers 150 lbs. per ambulatory seated passenger and driver, 250 lbs per mobility aid passenger, and 10 lbs. per person for optional luggage/grocery/storage racks (if ordered) in the locations designated and offered. A weight distribution schematic and loading calculation must be shown for each floor plan and submitted with bid for each floor plan offered. Loading calculations must be made with full tanks of fuel.

4.11 UNLADEN WEIGHT: A copy of a weight certificate from a state **certified scale (state of builders location) showing the unladen weight of a reasonably representative vehicle, with a full fuel tank, must be submitted prior to award. Included with this certificate shall be description of components that this vehicle does/does not have and their respective weights to allow evaluation of ability to make weight with the actual contract vehicle.**

4.2 ENGINE: California approved gasoline electronic fuel ejection (EFI) fuel management system. The engine package shall not be modified from the OEM.

4.3 TRANSMISSION: Minimum four speed automatic transmission incorporating an OEM installed air to oil type auxiliary transmission oil cooler and filler extension neck for adding fluid. Five speed required if available from OEM.

4.4 BRAKES: Dual hydraulic power-assisted system with disc-type brakes on the front wheels and drum or disc-type on the rear wheels. A foot operated parking brake shall be supplied with a warning light on the dashboard.

4.5 SPRINGS: The front and rear springs shall have a ground load rating equal to or exceeding the GVWR of the vehicle. Shim or comparable method that is recommended by the OEM, shall be installed on the lift side of the vehicle to keep the bus level. Chassis rear leaf spring hangers and shackles shall be replaced with a hanger and rubber shear spring assembly (MOR/Ryde "RL" or approved equal) rear suspension system.

4.6 SHOCK ABSORBERS: Each chassis shall be equipped with front and rear, heavy-duty, double-acting gas filled shock absorbers, the highest rating available from the OEM.

4.7 STEERING: Each vehicle shall be equipped with OEM power-assisted steering. Steering shall incorporate an OEM factory installed tilt wheel feature and cruise control.

4.8 WHEELS: Each vehicle shall be equipped with seven matching steel-disc wheels. The rated capacity shall equal or exceed the GVWR of the vehicle. Rear dual wheels will have a valve extension installed to the outside on each set of rear wheels to check and fill air pressure.

4.9 TIRES: Seven OEM steel-belted radial ply tires of equal size and rating. The combined load rating of the tires shall equal or exceed the GVWR of the vehicle. The spare tire shall be installed under the vehicle, Street side exhaust may be deleted to allow room for spare tire, see 8.5 (7)

4.10 BUMPERS: Rear bumper shall be installed, with anti-ride installed above it, front bumper shall be OEM. The rear bumpers shall meet the following: No part of the bus, including the bumper, shall be damaged as a result of a 5-mph impact of the bus at curb weight with a fixed, flat barrier perpendicular to the bus longitudinal centerline. The bumper shall return to its pre-impact shape within 10 minutes of the impact, and return to ability to pass the above test multiple times. Bumpers that can only pass this test one time will not be considered as approved equal. Rear bumper must have the HawkEye reverse assistance system integrated into the bumper and continue to operate after repeated 5-mph impacts (see 5.51). Equal to: Romeo Rim, HELP GARD.

5.0 AXLES: The sum of the front and rear axle ratings shall equal or exceed the GVWR of the vehicle. The rear axle shall be single-speed type.

5.1 DRIVESHAFT. Protective metal guards for the driveline shafts shall be provided to prevent a broken shaft from touching the ground or any brake/fuel line and prevent the shaft from contacting the floor of the bus.

5.2 ELECTRICAL: The electrical system shall be a 12-volt system. All electrical accessories except the radio, lights, and mobility aid lift must be wired through the ignition, and must shut off when the ignition is shut off. A wiring diagram must be submitted upon vehicle delivery that will match the as-built wiring for each vehicle. The fuse box must be properly labeled to identify each circuit with a corresponding label identifying the function attached to the fuse box cover. Mating harness and harness connectors shall use matching wiring and coding.

5.21 Wiring and Switches: All switches and wiring circuits shall be protected with either fuses or circuit breakers. All fuses and circuit breakers shall be labeled for identification and installed in one central location with a cover (metal or plastic). The OEM Chassis electrical protection may not be altered or modified in any way. All Contractor-installed switches shall be of heavy-duty design. No switches or wiring will be installed on the engine cover and no electrical, stationary or mechanical device may block the removal of the engine cover inside the bus. All electrical terminals shall be heavy – duty, pressure - type terminals. Wire connections shall be crimped with Packard type connectors. All terminals shall be of the full ring type, sized for the terminal screw or stud. All wire terminals exposed to weather must be protected against weather and environmental exposure. Samples of connectors to be provided for review prior to bid award.

5.22 Second Stage manufacturer installed/added switches, and controls shall be installed in a panel mounted above the OEM inside mirror, and between the OEM sun visors. This panel shall be designed to compliment the OEM interior trim in color and material. Panel shall be angled toward driver for easy use and viewing. See Depiction A. All switches shall be backlit. Entry door control switch may be allowed on OEM dash, subject to Caltrans approval. Indicator lights for interlock, fast idle and door ajar may be allowed on OEM dash, subject to review and approval at

preproduction meeting by Caltrans. OEM location for rear heater control switch is acceptable for rear heater control switch.

5.22.1 There shall be no exposed wiring inside the vehicle. All wiring must meet SAE standard requirements. All electrical wiring shall be automotive stranded and shall be loomed, color, and number coded with a schematic showing function code. No wires of the same color, number or function code in the same loom or harness. All harnesses that are added to the vehicle will be secured to the frame at a maximum of twenty four inch intervals. Plastic wire ties are not acceptable. Added P-Clamps will be made available for appropriate support/protection as deemed necessary by the State. All wires or harness which pass through holes or by sharp edges shall be ran through loom or rubber grommets. All wiring connections shall be done with Packard connectors. No butt connectors will be allowed.

5.23 CHARGING SYSTEM: The vehicle charging system will use an alternator of 12-volt potential having the largest charging capacity available from the OEM.

A fast idle system equal to Intermotive Gateway (for Ford chassis), or Intermotive AFIS (for Chevrolet chassis), shall be installed. The fast idle system must be able to automatically increase the engine speed to 1,500 RPM. The fast idle shall engage only when the vehicle is in park and the vehicle is not in motion (must sense vehicle movement) and activate when vehicle voltage drops below 11.5V. A manual override switch shall be located convenient to the driver to engage the system when the vehicle is in park and vehicle is not in motion, as described above.

5.235 LIGHTS: Each vehicle shall be equipped with;

A) OEM daytime running lights.

B) Taillights are to be recessed and not protrude more than 2" from the body and include a pair of amber combinational hazard and signal lights. Rear tail lamps shall also include a pair of red taillights and red stoplights, which may be combinational (equal to Dialight 46121RB-Red, 46121AB-Amber).

C) Side signal lamps, with marker, shall be provided independently or be incorporated into the center of the vehicle (equal to Dialight 1800-1AB-811). Location must be in front of the rear wheel opening and provide visibility from behind the rear wheel opening. Location subject to Caltrans approval.

D) Clearance marker lights shall be installed surface mounted, facing the front, rear, and each side at rear (equal to Dialight 1500RB, 1500AB).

E) Center LED (equal to Dialight 87121RB) brake light center mounted above rear window. Minimum 18" in length.

F) Two (2) LED (equal to Dialight 46001CB) back-up lights, one mounted on each side of the body rear cap, shall be provided.

G) Step lighting shall be provided by LED (reference Dialight 70-81CB), mounted to provide light for the entire step-well and portion of the ground area outside the bus.The step lights shall be extinguished when the front door has closed. Raised floor step lighting shall be provided by one LED strip light mounted in the step riser. Must be recess mounted to protect from accidental damage by passengers contacting light while using step (equal to Dialight 87121CB) Minimum 18" in length.

5.24 BATTERIES: Chassis OEM dual, maximum capacity, batteries shall be provided,with an additional battery installed in the side tray. The third battery shall equal the larger of the 2 OEM batteries. Provisions shall be made to charge the auxiliary battery from the engine alternator. A locking weather protected sliding type battery box equal to Kwikee part #905708 for the auxiliary battery shall be installed on the curbside behind the passenger door with stainless steel bearing slides that provides for a latched tray to hold the battery in place and at a safe distance while the battery is being serviced. For diesel engine equipped vehicles a tray equal to the above referenced tray in design and function, that is large enough to accommodate the 3 batteries, is required. Battery cables installed in place of chassis manufacturer's battery cables shall be a continuous run and sized to match the electrical system's maximum current draw. Battery box must be designed with full support under the tray. Battery trays that are built without structural support underneath will not be accepted. 8-D batteries are not allowed for use on vehicles purchased through this contract, and may not be purchased as an option.

5.25 GROUNDS: Three added grounds shall be installed on the vehicle, all shall be # 0 gauge. One ground shall be installed between the engine and the OEM frame. The second ground between the cutaway body frame and the OEM frame, and a third between the lift pump housing and the side battery, grounds must be continuous, without splices. For all ground connections, paint or foreign material must be removed and a coating of dielectric material applied to the cleaned surface where each ground attaches.

5.3 FUEL TANK: Fuel tank(s) shall be a minimum of thirty-five (35) gallon capacity from the OEM chassis manufacturer. Largest available capacity from OEM is required. The chassis OEM fuel system shall not be modified and be fully compliant with California Air Resources Board standards.

5.4 INSTRUMENT PANEL: Each vehicle instrument panel shall be equipped with at least the following:

a. Ammeter or voltmeter
b. Oil pressure gauge
c. Fuel capacity gauge
d. Engine temperature gauge
c. Speedometer
e. Emergency brake warning light

5.41 The instrument panel shall have lamps sufficient to illuminate all instruments. All instruments shall be accessible for maintenance and repair and shall be mounted so that each instrument and all indicator lights are clearly labeled and visible to the driver. Lights in lieu of the listed gauges will not be acceptable. Decals or Dymo Labels are not acceptable.

5.5 Back-up alarm connected with back-up lights to produce an intermittent sound to warn others while bus movement is in reverse, equal to ECCO 530 or 575.

5.51 REAR OBSTACLE DETECTION Intermotive, Hawkeye Reverse Assistance System, or approved equal (must indicate side and distance to object detected), rear obstacle detection system integrated into the rear HELP bumper per manufacturers recommendations. See section 4.10.

5.6 BODY MODIFICATIONS: All modifications shall comply with the FMVSS. The Vendors must be certified by the National Traffic Safety Administration to manufacture or alter vehicles in accordance with the Code of Federal Regulations, Title 49, Parts 567-568. On "cutaway" conversions added bodies must be securely fastened to the basic vehicle structure and bolted securely through chassis rail flange at floor and with added reinforcing plates or comparable method. Method of attachment must conform to chassis OEM body builders' requirements. Attachment through bus side rails is not allowed. No welded securement to the basic vehicle structure will be acceptable. No second stage manufacturer welds, or holes, will be accepted if they are not a minimum of 1 and ¼ inches from the top of the top flange and 1 and ¼ inches from the bottom of the bottom flange. Welds, and/or holes that are in the center (the area between the top and bottom flanges as measured above) area of the web of the frame and comply with OEM requirements will be accepted. All OEM requirements must also be met. Vehicles that do not comply with these requirements will be rejected.

5.7 STRUCTURE: The vehicle body shall incorporate a welded steel or aluminum body frame or shall be constructed to provide maximum protection to passengers in case of rollover accident or a crash accident to the side or rear of the bus. The inside and outside body panels should be fabricated of contoured steel, fiberglass, fiberglass reinforced plastic with resin-hardened honeycomb, or aluminum. The frame shall be attached to the understructure and securely attached to the chassis so that the entire vehicle will act as one unit without any movement at the joints. The entire unit shall be adequately reinforced with structural steel to carry the required loads and withstand road shocks. The entire frame structure of bus body and attaching members shall have zinc chromate, or approved equal anti-corrosion product, applied prior to mounting the bus body.

5.71 Roof Construction: The roof construction shall be of sufficient strength to prevent vibration, drumming or flexing. The roof is to be designed to prevent pooling of water on the roof. Roof shall be one-piece design. Driver area head room must, at a minimum, equal the original OEM cab head room, including the transition area over the driver's door to the raised roof cap.

5.72 The entire unit shall be adequately reinforced and shall meet requirements of FMVSS 220, School Bus Rollover Protection. A current certification for each vehicle type must be furnished with the bid. The test results shall not be more than two (2) years old on the production model bid unless the structure has not been significantly modified as defined by 49 CFR 665.

5.73 All exterior seams shall be constructed to shed water without leaking into the vehicle. All higher panels, including roof, must lap over their lower adjacent panels. In no case shall sealing of panels be dependent on caulking alone. All exterior joints and seams shall be protected by zinc chromate caulking, butyl rubber tape, or other approved (by the State) material. No water leaks in the body will be acceptable. Testing shall be done at the

manufacturers factory with water nozzles appropriately placed to test the entire conversion. Minimum 20-psi water pressure for testing is required.

5.74 The body shall be free of cracks, dents, defects or physical damage.

5.8 SEATING

5.81 Passenger: All passenger seats shall be individual modules similar to Freedman Feather Weight Mid/Hi, or equal, one or two position bench type modules of not less than 17.5 inches in width. All fixed seats shall be track mounted for easy removal, forward facing and have an individual cushion and equipped with folding back molded U. S. Arms, or equal, aisle armrest. All back cushions shall be contoured to provide full lumbar support, color coordinated with the interior vehicle color. Prior to award, the Contractor shall submit a sample of the upholstery and cushion material to the State for approval. Seats shall be available in cloth or vinyl, at buyer's choice at no extra cost. Driver seat can be cloth or vinyl, independent of passenger seat material choice, also at buyer's choice with no extra cost.

All seating, including driver, shall meet the following requirements:

Seat material shall be compliant with Docket 90-A, FTA Recommended Fire Safety Practices for Transit Bus and Van Materials Selection. Cloth seat fabric shall be a minimum 100,000 double rub woven material, anti-bacterial and anti-microbial, the seat fabric shall have a moisture repellant treatment that prevents liquids from passing through fabric. Vinyl seat material shall be minimum level **4 vinyl**, (36 oz. per running yard). All seats shall meet the following minimum requirements:

a) All applicable FMVSS requirements, including FMVSS 207,210, and 302 for all seats and seat belts to be installed in the bus.

b) Cushion and seat cover shall be of the slipcover type, removable and replaceable without removing the entire seat.

c) Freedman USR (under seat retractable) seatbelts, or approved equal, shall be provided for all seats. Driver seatbelt shall be OEM lap/shoulder belt. Two 24" belt extenders shall be provided with each vehicle. Seat belts shall meet or exceed FMVSS 209.

d) All exposed metal surfaces shall be powder coated.

e) All seats shall have not less than 27" hip to knee room spacing between seats. All seats shall have a minimum cushion depth of 17", and a thickness of not less than 2.5". Seat bottom cushion height shall be 17½ inches, plus or minus ½ inch, as measured from floor to top of the cushion. **All seats shall face forward.**

f) All passenger seats are to have molded energy absorbing grab handles at the top of each forward facing seat. The handles must be securely attached to a welded seat frame structure. Seats along rear wall do not require grab handles. Aisle seats are to include black folding US arms, or equal.

g) A minimum clear aisle of 15 inches. This must be maintained with any optional seat chosen as well. There shall not be a mobility aid position blocking the aisle or directly in front of the mobility aid lift except when their is a rear lift. Random movement to any seat position for ambulatory passengers must be maintained.

h) Folding seats must be equal to Freedman mid/high back, three step folding seat. Folding seats must be installed so that rubbing/chaffing does not occur during fold operation. Seat cover must not touch side wall or structure during fold/unfold. Folding seats placed over a mobility aid tie down space shall include Freedman T.D.S.S. (tie down storage system). Folding seats must be mounted to steel structure that is an integral part of the final stage builders under floor structure, minimum thickness 1/8th inch. Steel plating for seat securement must be designed into floor, added steel plating similar to large washers will not be accepted. All seat mount bolts and wheel chair shoulder harness mount bolts that are not fastened to seat track will be mounted to the above required structural steel members. No fasteners will be allowed within 1 ½ inches of any flat steel components edge. This requirement does not apply to fasteners through box beam type of structure.

i) FMVSS Compliance: All seats and restraints in the vehicle as specified must comply with current FMVSS standards, including 207, 209, 210,and 302. Documentation of current model year testing and seats as specified within shall be provided prior to award. Testing by an American Association for Laboratory Accreditation, or equal, accredited test facility of individual components independent of the vehicle will be accepted if done on a representative floor, and vendor can validate that test results meet all FMVSS requirements, and could be duplicated in the production vehicle. Any alterations to OEM seats or mounts that affect these tests must also be tested. Detailed seat installation instructions and test data must be made available to the State prior to award of the contract. This test is required for all seats, including optional seats installed over wheel wells that buyers may choose.

j) A one-piece filler shall be provided in tracking between fixed seat placements. Any order that deletes fixed seats will also automatically delete the floor track for that seat. Floor track will not be installed in any area not covered by a fixed seat. Track can extend 6 inches to the rear of the fixed seat area to allow for seat adjustment by end user to better accommodate their needs. Track will not be allowed forward of the front most fixed seat (no track in foot rest area).

k) Both Type II short, and standard shall include one 2 passenger 3-way folding seat, or a 2 passenger flip seat. Choice will be at buyer's option at no extra cost. As with all other passenger seats this seat may be deleted and a credit given to buyer. Credit must be described in bid package. Standard locations will be as follows, with buyer's option to choose other locations at no extra cost: in rear lift buses the 3-way fold seat will be mounted on street side behind fixed seats. Flip seat will be mounted on street side rear wall. Both will match fixed seats in manufacturer, covering and style. Grab handles are not required on rear wall mounted seats. In front lift buses a 3 way folding seat will be included over either wheel chair position, location at buyer's choice at no extra cost.

l) The bidder shall provide floor plan / seating arrangement drawings for all line item/configurations, prior to bid award, which are to scale and meet passenger-seating, and loading requirements. Drawings, at a minimum, shall show the location and dimensions of

all seating positions, drivers position, aisles, doors, modesty panels, stanchion, grab rails, tie down locations, and other passenger assists. In addition, all major body interior dimensions must be shown. Proposed seating arrangement plans must be approved by each procuring agency prior to production, and must comply with standards established with the original seating requirements. This requirement does not preclude other optional seating requests as long as they meet all the requirements set forth in this specification, such as aisle width and hip to knee.

m) Contractor must have approved floor plan showing all seat locations that has been signed by buyer. Any seats mounted in incorrect locations that are relocated will have floor repaired by adding support under the floor to facilitate sealing from below and support for dowel, or other accepted filler, and floor covering replaced to the nearest seam. Caltrans representative/inspector will make final decision for seam location. No bolts will be accepted as hole fillers.

5.82 DRIVER SEAT: A Recaro bucket-type driver's seat with mechanical reclining back rest, adjustable headrest, air bladder adjustable lumbar support, adjustable flip-up right hand armrest, and flat (model SFX) or traditional (model LXF) side bolsters shall be provided. Bolsters shall be at buyers choice at no extra cost. OEM seat belt and shoulder harness shall be provided. Upholstery shall be color coordinated with passenger seats. Seat trim will include all OEM (or equal) trim, even if an optional seat, or seat base is ordered.

5.9 FLOORS: The floor overlay shall have a minimum of 3/4" 7 ply APA certified exterior grade plywood of C-C plug grade securely fastened to the cross sills. With all edges to be properly sealed for moisture.

5.91 FLOOR COVERINGS: The aisle, entrance, and step tread areas shall be covered (in one piece) with Rubber Solutions Duraflor or R.C.A. $\frac{3}{16}$ inch thick wide ribbed, marbleized charcoal in color, nonskid-type transit rubber flooring. All other areas shall be not less than $\frac{1}{8}$ inch thick of the same type except it may be ribbed or smooth. All step edges shall have a band of bright contrasting color, Yellow or White, buyer's choice at no charge, running the full width of the step. The floor covering shall be butt joined without gaps and securely cemented to the plywood floor with a waterproof adhesive. The ribbed portion of the floor covering shall run parallel to the bus sidewalls and turn 90 degrees at the entry area, to run toward steps. This is required to assist in ease of cleaning.

6.0 REAR EMERGENCY EXIT: The rear emergency window shall be large enough so that in conjunction with the rear view mirrors, blind spots are not created. If vehicle is equipped with rear door as an option, rain molding shall be installed over the door(s). Seat backs shall not intrude in required emergency exit window or door openings. Low back seats shall be used on rear wall when raised floor option is chosen.

6.1 ENTRY DOOR: The vehicle shall be equipped with an electric front entrance door, reference A & M Doors (or equal, equal must include emergency exit function), door shall be a two-section door equipped with 2" elastomeric material on each section that overlaps a minimum of $1\frac{1}{2}$ inch to

form a tight seal. The clear height and width of the entry door shall be as specified in section 3.0. Entrance door system shall include exterior keyed entry. A rain molding shall extend over the doorframe to prevent water intrusion. The operation of the entrance doors shall be controlled from the driver's position. The entry doors shall open to a minimum of 90 degrees. The door glass shall be see-through, tinted (AS-2) safety glass, and shall be full length/sections. The door mechanism must be accessible through a hinged service door above the doors. Lower corner of cover must be padded to protect users from injury.

6.2 ENTRY STEPS: The front passenger steps and step well shall be heavy-duty welded steel, minimum 14 gauge, with adequate reinforcement to prevent deflection more than $\frac{1}{4}$ inch under a 300 pound load placed on an area 28" wide on the center of the step. Upon removal of the load, this step will rebound to its original dimension. A standee line is required, color to match step edges, see section 5.91.

6.21 The individual step risers shall be a maximum of 9.5" in height with step tread a minimum of 9.5" deep. The bottom step tread shall not exceed 11" from the ground unloaded. The stepwell shall incorporate LED lights to illuminate the step tread area when the entry door is opened. A three-step entry is allowed only in a Type II with a front lift or if chosen as an option.

6.22 Step risers shall be vertical. If risers are not vertical the usable step area shall be calculated by measuring the step area from the vertical line from the step edge above. Any step area that is in an area that falls under the step above it will not be accepted for measuring compliance of minimum requirements in section 6.21.

6.23 DRIVERS RUNNING BOARD/ASSIST: The drivers door entry area shall be equipped with a running board. Running board shall be a minimum of 9" deep, maximum of 12". This will be measured from the OEM body at the flange at the bottom of the rocker panel. Running board shall extend from the front edge of the front door opening to the rear of the OEM cab. Running board must be designed to hold 300 pounds without permanently changing shape, and be slip resistant diamond plated aluminum, or equal. Driver entry area shall include an entry assist grab handle, mounted to the rear of the door opening on the outside, (height shall be determined/confirmed at preproduction meeting) on the B pillar. Handle shall be a minimum of 6"grab area, durable, corrosion proof, and have no sharp edges. Installation with self taping screws will not be accepted, must include bolts into threaded inserts.

6.3 MODESTY PANELS, STANCHION AND HANDRAILS: An entry door modesty panel and stanchion post shall be installed at the left rear of the stepwell and in front of the curb side row of seats. and a second modesty panel behind the driver A stanchion with modesty panel to rear of front mounted lift is required when a front lift is selected. Stanchions shall be constructed from the floor to the ceiling. The lower 30" portion shall be constructed of a gray formica laminate, or equal, with plastic edge molding, the color to match the interior. A 30"(minimum) handrail shall be installed on both sides of the entry door made of 1.25" 304 stainless steel that can be used by passengers standing at ground level to aid in boarding the bus as well as those passengers that are deboarding the bus. The handrail must be able to be used continually for help in boarding and deboarding the bus. Note: The clear entry door width must not be affected by grab handles. Two overhead grab rails using 1-1/4" diameter 304 stainless steel are required on the both sides of the vehicle to run the full length of the available seating. Handrail shall terminate into ceiling with radiused stainless steel ends without connections/elbows. All

stanchions and handrails shall be securely fastened into structural members at all mounting points. A minimum of 4 attachment screws will be required at top and bottom securements. A smoked plexiglass panel, 3/8" thick shall be provided behind driver from top of driver's seat to within 6" of bus ceiling. Panel must not impair driver's seat adjustments. Panel may be incorporated into stanchion and guardrail behind driver and must provide cutout area for handhold and be shock mounted to prevent rattle. Cutout area for handhold must have no sharp edges and all corners shall be radiused.

6.4 INTERIOR PANELING: All interior walls shall be paneled, including doors. All panels shall be the same color and coordinated with the interior colors of the vehicle. All interior panels may be made of scuff-resistant, vinyl-coated aluminum, textured paint on steel, or laminate/FRP finished material. Panels shall be securely installed to prevent noise/rattles. **Carpet or cloth covered materials are not acceptable for floor or roof coverings.**

6.5 WINDOWS: All windows, except the windshield, rear and doors, shall be egress transit type or a top T-slide panel type, a minimum of 780 square inches. All side windows, except street side rear which shall be fixed, shall be top vented to allow for ventilation. All side windows shall provide a clear view to the outside from each seat position. Windows shall be installed in the double entry doors, on the curbside of the vehicle. Caulking around windows shall be used only as a seal, not to make up for body defects or out of tolerance window openings. All rear and passenger glass is to be tinted to a maximum of 31% light transmission in the passenger compartment. A steel plate adequate to support shoulder straps anchorages must be installed above the windows.

6.51 Placement and installation of the windows shall not diminish the structural integrity of the vehicle. Structural reinforcement shall be added to compensate for the reduced structural rigidity. All windows, including emergency exit window, shall comply with the FMVSS 217. There shall be at least one each minimum emergency exit window on each side of the bus, with their location indicated by red lights mounted above each exit window. Windows shall be placed to maximize access to emergency exit widows, while minimizing seat back interference with exit windows. Drivers door and entry door shall not be considered as an emergency exit.

6.6 INSULATION: Foam sprayed insulation, or equal, equivalent to 1.5" fiberglass shall be installed in the roof, rear wall, front and rear caps, sidewalls and extended door sections. If additional insulation is necessary to meet this requirement the insulation shall be glued to the chassis body to prevent sagging. The insulating material of the body and sidewalls shall be of sufficient thickness to contact the inner and outer walls, insuring positive Insulation vapor barrier (equivalent to 1.5 inches fiberglass). Insulation shall comply with all Federal requirements and shall pass the testing requirements specified in the Federal Transit Administration (FTA) Recommended Fire Safety Practices for Transit Bus and Van Materials Selection. The use of foam sprayed insulation, or other similar material, is prohibited under the floor in any area in which it would cover seat, securement, or other fasteners that are part of any installation that is subject to FMVSS testing.

6.7 PAINT AND TRIM: Exterior surfaces shall be properly cleaned and primed as required, dependent upon the paint used. Painted surfaces shall be impervious to diesel fuel, gasoline, and commercial cleaning agents. Paint shall be high quality acrylic white enamel that matches the OEM paint scheme (non fiberglass body). Entire vehicle to be OEM white, any other colors (including two-tone) will be at buyers cost. Two 5" transit style stripes running the full length of

the vehicle shall be installed on each vehicle. Colors available at a minimum shall be: white, red, orange, yellow, green, light blue, and blue. Reference: Stripe shall be 3 M reflective tape series 680, or approved equal. This stripe shall be white if user does not choose another color. Location of stripes to be approved at preproduction meeting.

6.8 FRONT CAP: The exterior front cap must be of solid one-piece reinforced molded fiberglass covered with a jell-coated exterior surface. Cap shall include recessed areas to install marker lights.

6.9 UNDERCOATING: The entire underside of the body including floor members, side panels below floor level (if metal), and fender wells shall be undercoated, at the time of manufacture, with a nonflammable resin type polyoleim or equivalent equal to Tectyl 121-B. All openings in the floorboards and firewall shall be sealed.

6.91 WHEELHOUSING: The wheel housing shall be constructed of a minimum 14 gauge galvanized steel, or stainless steel and provide ample tire clearance during all operating conditions. Fenders and splash aprons (underskirt) of durable construction shall be provided so as to provide maximum deflection of the wheel splash. There shall be sufficient wheel well clearance for snow chains. Front and rear tire mud flaps are required.

6.95 AIR CONDITIONING: All vehicles require an OEM integral front air conditioner and an auxiliary rear air conditioner. Rear systems shall be completely independent of the front system, and sized as follows; All Types shall be capable of producing 53,000 BTU equal to Carrier A/C model 713Max with TM16 compressor, EM1 Evaporator, and CM3 Condenser All compressor installations must be done with mounting hardware recommended by manufacturer. Installation shall comply with all OEM requirements. All controls for both air conditioners shall be located for ready access by the driver. Cooling shall be specified in BTU at 100° F. ambient temperature (IMACA ratings). The condenser for the air conditioner shall be skirt mounted and shall have fans cooling the condenser with automatic reset. The air conditioning system shall use refrigerant R134A. Non-OEM refrigerant hoses to be SAE J-2064 Aeroquip Type E or Ecofrigo Type D incorporating thermoplastic lining to reduce leakage. Fittings to be all steel using two O-rings for improved sealing and durability. Added refrigerant lines shall have a minimum of fittings, any fittings solely for the purpose of joining 2 or more short hoses in place of 1 longer hose will not be accepted. A label must be placed in the engine compartment detailing manufactures name, refrigerant type and quantity, compressor oil type and quantity. The evaporator and condenser must be matched to the compressor as per manufacturers recommended installation instructions. All A/C and heater hoses shall be adequately supported with P-Clamps at a maximum spacing of 24". No hoses may cross over the exhaust system without shielding equal to OEM required shielding for floor protection. All hoses must be a minimum of 6 inches away from the catalytic converter, even with shielding and 4 inches away from exhaust pipes and muffler, even with shielding. Prior to bid award bidders will submit detailed information for review and approval by Caltrans, which describes and identifies all components of air conditioning systems proposed for installation. Evaporator drain shall run down hill from evaporator housing. Elbow, or turn down, shall be a minimum of ½ inch below the outlet on the housing. Drains must be installed to prevent puddles of water from being retained in the system. This requirement is to reduce the chance of bacterial growth. Note Tie in to the OEM system is not allowed.

7.0 HEATER: Each vehicle shall have a front mounted integral high output heater and a rear floor high output auxiliary heater mounted behind the rear wheel housing or under a rear seat. The front heater shall incorporate windshield defrosters. The rear heater shall be equipped with two brass ¼ turn valves that are clearly marked on the outside of the bus as to its location. The valves shall be located below or behind the driver's entry step well. (Final location to be confirmed at preproduction meeting). The total output of the auxiliary heater system shall not be less than 30,000 BTU for Type I, and 40,000 BTU for Types II and III.

Standard Locations shall be as follows: Type I bus with rear lift shall have a wall, or floor, mounted heater on the curbside of the rear wall to the rear of the lift. Type I front lift shall be floor mounted under rear wall center seats. Type II and III rear lift shall have heater located street side under rear most fixed seat, placement shall be designed to maximize passenger foot spacing while seated for user behind seat and user in seat which has heater under it. With a front lift the heater shall be under rearwall center seat. The placement of the heater must be approved by the procuring agency. If user chooses a location that is not protected by above locations then a protective permanent barrier to protect against impacts with mobility aids shall be provided around the heater, final design subject to Caltrans approval at preproduction meeting.

7.01 Heaters are to be controlled by two individual multiple-position switches (off, low,medium, high). All controls for both heaters shall be located for ready access by the seated driver. All hoses, drains and wiring must be covered and adequately supported with plastic/rubber coated steel clamps secured at a minimum of two-foot intervals. All heater hoses are to be silicone, or approved equal, with clamps designed for use with silicone hoses. All hose routings shall comply with the A/C hose requirements in section 6.95. Combustion heaters are not acceptable.

7.1 MOBILITY AID LIFT:
At buyer's option, a Braun series 917 IB or Vista, Ricon S-2005, or KlearVue series mobility aid lift will be installed in front of the rear axle or behind the rear axle at the purchaser's option and without additional charge. Lifts installed in the rear position will have front pumps for ease of service. The lift shall incorporate a positive locking mechanism to prevent drifting from the stowed position. Lift shall meet requirements of FMVSS 403/404. **Braun lift shall be a model NL-9171B-Millennium.**

7.12 LIFT PLATFORM: The lift platform shall have a minimum clear width of 32" at the platform, a minimum clear width of 32" measured from 2" above the platform surface to 32" above the platform and a minimum clear length of not less than 50" measured from 2" above the surface of the platform. Longer platform lengths are required at no extra cost, if available from the lift manufacturer.

7.13 This lift platform shall permit boarding of a mobility aid in either a forward or backward position and shall accommodate standees.

7.15 All scars/damage on the vehicle, due to mounting of the lift assembly, shall be repaired.

7.16 MOUNTING OF THE MOBILITY AID LIFT ASSEMBLY: The mobility aid lift shall be installed in accordance with the lift manufacturer's recommendations and requirements.

7.18 POWER OR EQUIPMENT FAILURE: The lift platform shall have an automatic stop-and-hold mechanism to prevent the platform from free falling or folding any faster than 12 inches/second in the event of a power failure or equipment failure during the raising and lowering modes.

7.2 LIFT HANDRAILS: The lift platform shall be equipped with handrails on both sides (as per FMVSS requirements). Any lighting installed on handrails must be LED, not interfere with standees use of the handrails, and operate at a temperature that will not result in burns should skin come in contact with them even if left on for long periods of time.

7.3 LIFT ENTRY DOOR: The side lift entry door shall provide a minimum clearance of 68 inches between the top of the door opening and the raised lift platform. Tallest door opening available must be provided, and width to accommodate lift chosen by buyer.

7.31 The lift entry shall be two entry doors and each shall have windows with laminated or tempered safety glass set in neoprene or similar retention molding. The windows in the doors shall be tinted to match side windows. Windows shall be largest available, and a minimum of 30" high by 10" wide in each door. Windows shall be located to maximize passenger vision when seated inside the bus. The lift doors and door opening must be properly installed so that the top and bottom of each door are square with each other. Doors that are not in alignment with each other and with the doorframe will be considered as not installed properly and will not be accepted. Lift door opening will include a rain gutter. Door opening frame will be powder coated, or constructed of corrosion resistant material, and painted to match body. Lift doors will be constructed with Tubular steel, or aluminum frame and fiberglass or aluminum interior and exterior material. Doors shall be designed for long life/heavy use. Hinges shall be full-length stainless steel, with minimum 3/16" stainless steel pins. Both doors must latch at top and bottom, and have a locking door handle on the door first opened/last closed.

7.32 A positive factory-installed gas shock to assist in maintaining opened or closed position of door(s) shall be installed to hold the lift entry doors open while the lift is in use. Lock shall be stainless steel paddle-type handle or Caltrans approved and incorporate top and bottom rotating cam latches with a standard key lock.

7.33 Automatic curb illumination lamps shall be located inside the lift doorway and other passenger loading areas.

7.4 CONTROL STATION: The mobility aid lift system shall have one control station capable of controlling all lift functions, and shall comply with FMVSS. The control station cord shall be the coiled type and reach 12" in length beyond the length of an extended platform and have removable twist type connection. Caltrans must approve the final routing and securement of the cord. **The on/off switch must be located within reach of the operator when standing outside the lift doors, with doors open, and labeled for function.**

7.5 POWER REQUIREMENTS AND ELECTRICAL SYSTEM:

7.51 The main power cable to the lift hydraulic pump motor shall be of the proper gauge and fully enclosed in a loom. The cable shall be properly supported throughout the vehicle with insulated straps and mechanically attached to the vehicle body.

7.52 The lift shall be designed so that it can only be operated when the interlock is engaged. (Described in 7.6) Lift shall be grounded to side battery. See ground requirements 5.25

7.53 The lift electrical system shall be protected by a heavy-duty circuit breaker installed per manufacturers instructions with master control switch located near the driver and clearly labeled with separate indicator light. Note: interlock indicator light will not be accepted for this requirement.

7.6 CONTROL INTERLOCK: The controls for the lift shall be interlocked with the vehicle emergency brakes and transmission to ensure the vehicle cannot be moved when the lift is not stowed and so the lift cannot be deployed unless the interlocks are engaged.

The interlock shall be a fully automatic, solid state, microprocessor-controlled unit (Ref. Intermotive ILIS 501) or approved equal capable of self-diagnosis. Interlock shall utilize an LED display panel to show subsystem status. Interlock must prevent driving the vehicle with parking brake left on. Interlock must meet ADA Title 49 Lift Interlock requirements and FMVSS 403/404 requirements.

7.61 Intermotive, or equal, Park Crank Only Module (PCOM) module to prevent starting vehicle in neutral.

8.0 MOBILITY AID SECURITY AND OCCUPANT RESTRAINT SYSTEMS: Each vehicle shall be equipped with forward facing mobility aid securement and occupant restraint system as indicated by Table 1. The system(s) shall be capable of securing a variety of common mobility aid designs and accommodate a wide range of occupant sizes. At the time of vehicle delivery, the Contractor shall provide detailed instructions to include a training video from the securement manufacture for mobility aid placement, tie-down belt operation, and torso belt placement.

8.1 MOBILITY AID SECUREMENT AND OCCUPANT RESTRAINT SYSTEM(S), including all attachment hardware and anchorages, shall meet or exceed the following requirements:

* 30 mph/20 G Impact Test criteria per SAE J2249
* 36 CFR Part 1192 and 49 CFR Part 38 and 571 (ADA)
* All applicable Federal Motor Vehicle Safety Standards (FMVSS), as amended California Code of Regulations, Title 13

8.2 Mobility Aid Security and Occupant Restraint Systems: The securement system shall be Q'Straint Securement System model QRT Q 8300-Max, Surelock Titan, or approved equal. These will be by agency choice. Retractors MUST be AUTOMATIC SELF-LOCKING and SELF-TENSIONING. The system(s) shall be flanged "L" continuous track mounted type (with end caps), capable of securing a variety of common mobility aid designs and accommodate a wide range of occupant sizes. The Contractor shall provide detailed instructions for mobility aid placement, tie-down belt operation, etc. The track shall be installed in a location/manner that will maximize usable area while still meeting the track manufacturers installation requirements. End caps shall be installed with bolts, with large washers under the floor at securement nuts. Each vehicle shall come with two retractable tie-down systems. A closable box shall be

provided and secured next to the wheel chair lift for storage of securement systems. Final location and type to be determined at preproduction meeting. The system anchorages and /or track shall be recessed and attached with flush fasteners in accordance with the requirements of the system manufacturer. A copy of the manufacturers installation instructions must be provided to Caltrans prior to award.
NOTE: Any deviation from track installation will require written approval from securement manufacturer that the installation will not alter required testing in Section 8.1.

8.3 OCCUPANT RESTRAINT SYSTEM: For each mobility aid securement system installed in the vehicle, a corresponding occupant restraint system shall also be provided. The occupant restraint system shall consist of adjustable lap (pelvic) belt and an adjustable shoulder (upper torso) belt, and shall meet all applicable FMVSS, as amended.

8.4 SECUREMENT/RESTRAINT SYSTEM ACCESSORIES

8.41 A web cutter for emergency use shall be provided with each vehicle.

8.42 One torso pad approximately 8"X12" with thickness of approximately 1" and belt shall be supplied to secure mobility aid users while riding on the mobility aid lift.

8.43 STORAGE CONTAINER: A secured container shall be provided to store straps, pads and assemblies. The container shall be recessed in the center front cap portion of the vehicle or positioned over the drivers area if the front cap is used for destination signage with a hinged lockable door. The container must be sealed and not have any exposed wires, protrusions or sharp edges. Caltrans must approve final design.

8.5 ADDITIONAL EQUIPMENT: The following shall be furnished and installed in each unit. The mounting of any of the following items shall not interfere with passenger entry or exit:

(1) One 5-pound ABC fire extinguisher conveniently mounted.

(2) A minimum 16-unit First Aid Kit meeting the requirements of Title 13, California Code of Regulations (13 CCR) Section 1243.

(3) Three bi-directional emergency reflective triangles that conform to the requirements of FMVSS No. 125.

(4) Sufficient interior lighting to illuminate the driver and passenger entry area and the interior aisle. The switch for these lamps shall be mounted in the dash, backlighted, and labeled.

(5) A fully adjustable 6"X 9" (Reference BR A5008, or equal) passenger view mirror mounted just above the windshield to the right of the steering wheel area. Mirror must provide full passenger seating area viewing. Two hinged exterior rear view mirrors. Reference BR S2003/S2004 (or equal) split view model, with remote control for flat portion adjustment, turn signal in the mirror glass, and black powder coat finish. Mirror mount must include reinforcement mounting plate that is inside the fender with through

bolts. Threaded inserts mounted in the fender are not acceptable. Mirror mount must also include brace/bracket that mounts under the edge of the hood to existing OEM fender mount bolts. Convex rear view mirror shall be provided for right and left hand mirrors, and shall offer extra wide angle viewing. OEM mirrors mounted on the windshield shall not be removed.

(6) An OEM AM/FM CD radio with OEM antenna installed with four speakers placed in the passenger area.

(7) Exhaust: The tailpipe routing shall be configured so that it exits the vehicle on the street side with a turn down at the end of the pipe. The intent of the routing is to minimize the potential crushing of the exhaust pipe by the bumper. Final configuration of exhaust will be determined at the preproduction meeting. Street side exhaust may be deleted at buyer's choice, if required, to allow spare tire carrier installation at no charge to the buyer. (Spare tire carrier is standard.) Exhaust, with turn down, shall exit at the rear of the vehicle if the spare tire carrier is chosen, and street side exhaust must be deleted. Final design shall be determined at preproduction meeting.

(8) TWO-WAY RADIO ANTENNA PREP: Roof access for installing radio antenna with 5/8" I.D. conduit with antenna pull wire terminating behind drivers seat. Access compartment must have a access panel/door. Final design and placement must be approved by Caltrans. Panel/door must be color coordinated with interior of bus. See Depiction B for currently accepted design, by Viking Marine.

(9) Manual: Upon delivery of the vehicle, a complete operations manual will be provided that covers the conversion features on the vehicle as listed in this specification. The manual will provide complete, comprehensive instructions for the mobility aid accessories, mobility securements and all options.

(10) Brake Max, or DuraTrans Programmable Overdrive Controller (Ref. Intermotive) or approved equal allows for programming of shift patterns for overdrive/tow-haul feature. Brake Max for tow/haul equipped vehicles, DuraTrans for non-tow/haul equipped vehicles.

8.6 PAINTING, DECALS AND MONOGRAMS: All signs required by State and federal law shall be affixed to each vehicle exterior and interior.

8.7 PARTS BOOKS, MANUALS AND DRAWINGS: The following shall be provided at time of delivery. The information shall be organized in a three ring binder format with each section clearly identified. A draft copy, including all items in sections 8.8, 8.81, and 8.82, must be available for State review and acceptance prior to award.

8.8 A complete set of operating instructions, troubleshooting guide, inspection and service guide and detailed manufacturers parts list.

8.81 A complete "as built" electrical wiring diagram covering all electrical equipment and electrical circuits installed, complete with wiring codes for **each** vehicle ordered.

8.82 All manuals for the bus accessories, to include complete parts guide, and equipment to include mobility aid lift, air-conditioning system, tie downs, seating, heater, etc.

8.83 The Contractor shall have available complete bus maintenance manuals to include the engine, transmission and OEM chassis as well as a complete parts manual for each component. The Contractor shall keep the manuals up-to-date and available to the buyer for a period of three years after the date of acceptance of the buses under the contract.

8.84 Final stage manufacturer, and contractor labels, logos, and phone numbers on the exterior of the vehicles are prohibited.

9.0 TYPE I, II, III OPTIONS
(Return Option Pages With Bid)

The following options or accessories shall be furnished and installed when specified on the Purchase Order. Price on options listed shall be per unit.

NOTE: Include the price for each individual item in the following options for Type I, II and III even though option prices written below are "non award" items.

OPTION 1: SEATING - Optional seating shall match the existing seating in fabric, stitching, foam and design.

a) Folding Seat equal to Freedman Notch Back with top grab handle, armrest, color, fabric and foam to match standard seat specification. — Option 1a Price $_____

b) 34"-36" equal to Freedman's Feather Weight Mid-Hi Flip Seat — Option 1b Price $_____

c) 17"-18" equal to Freedman's Feather Weight Mid-Hi Flip Seat — Option 1c Price $_____

d) Child Restraint Seat
Integrated Child Restraint seat, Freedman I.C.S.(or approved equal) For transportation of children up to 60 lbs. Seat must be rigid high back with integrated child harness built into the seat frame. Seat must be seat belt ready and be able to properly secure an infant carrier seat for a child under one year and under 20 lbs. Seat must meet FMVSS Standard 213. — Option 1d Price $_____

OPTION 2: BRAKE RETARDER A driveline electro-magnetic retarder of ample size shall be installed as recommended by the retarder manufacturer for the vehicle supplied integrated with OEM foot control. — Option 2 Price $_____

OPTION 3:

a) Alternator: 1) Pentex PX-5 alternator
2) American Armature NITRO II Series alternator
3) Leece Neville — Option 3a Price $_____

b) Roof Vents: Equal to Transpec six way adjustable — Option 3b Price $_____

c) Additional mobility aid position(s) with tie downs (to match std) — Option 3c Price $_____

d) Energy absorbing HELP Front bumper, reference Romeo Rim or equal with provisions for Sportworks Bike Rack — Option 3d Price $_____

e) Credit for each seat left out of standard vehicle — Option 3e Price $_____

f) Locking rear door with alarm in place of rear window — Option 3f Price $_____

g) Removable fuel pump access plate in floor, plate to be diamond plate aluminum — Option 3g Price $_____

h) Locking fuel door — Option 3h Price $_____

i) Armored marker lights, and side turn signal — Option 3i Price $_____

j) Delete Morryde — Option 3j Price $_____

k) Maxon Lift — Option 3k Price $_____

OPTION 4: Raised floor when necessary to provide additional Securement positions. — Option 4 Price $_____

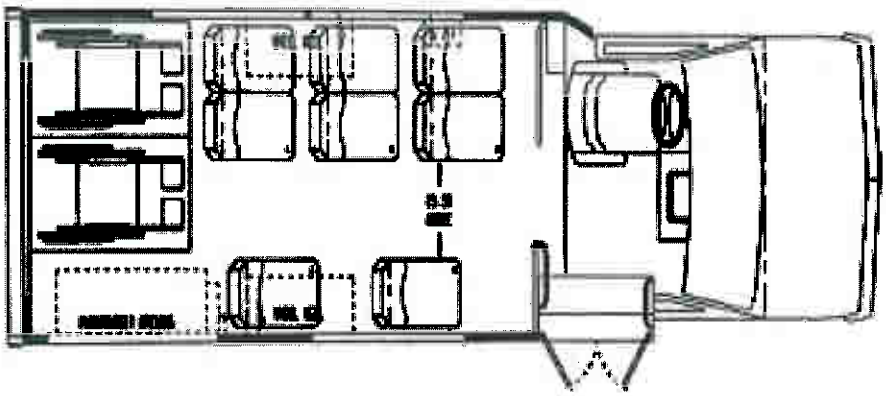
OPTION 5: Up Graded Air Conditioning for Type II Standard and Type III Diesel vehicles; systems capable of producing 92,000 BTU equal to Thermo King A/C model S40 with TM21 Compressor, 4 fan skirt mounted condenser and Evaporator sized to equal Thermo King S40 model requirements. Gasoline equipped Type II and III will include the same Thermo King package (S40), or equal, as soon as it becomes available. Until such time as it is available a TM 16 compressor will be accepted with the resulting decrease in BTU capacity. The larger evaporator and condenser will still be required to provide faster temperature pull down. All compressor installations must be done with mounting hardware recommended by manufacturer. Option 3 a) is required with this package, and this package shall be bid to include both items, A/C and Alternator. — Option 5 Price $_____

OPTION 6: Diesel for Type I and Types II, and III Largest OEM available. With five speed auto trans and dual alternators, If available from OEM. Shall include highest GVWR available from OEM for that chassis, list engine size. — Option 6 Price $_____

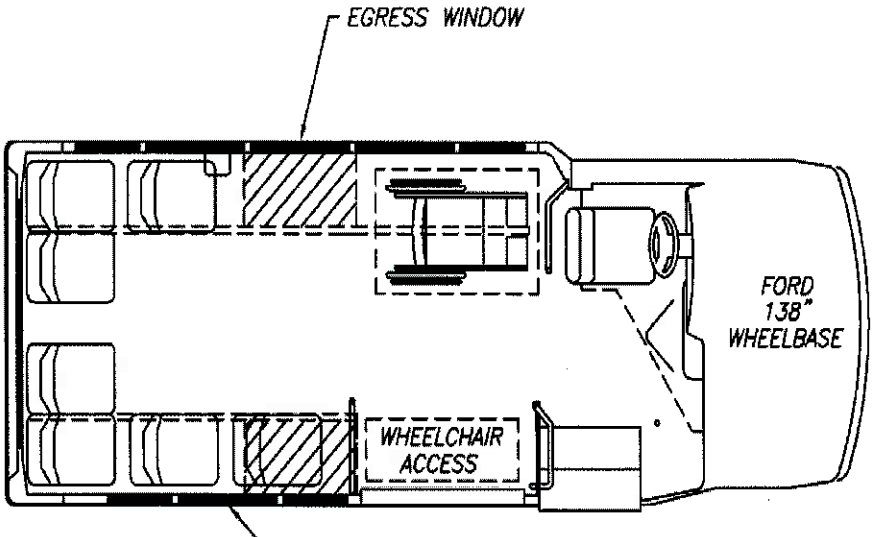
Depiction A above, Depiction B below

10.0 Floor Plans

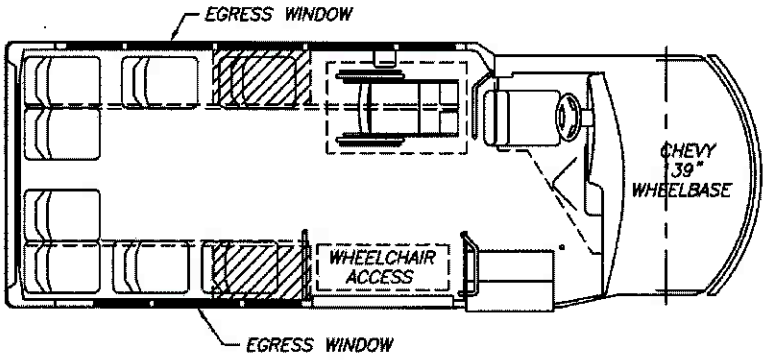
Note; some floor plans do not depict required egress windows



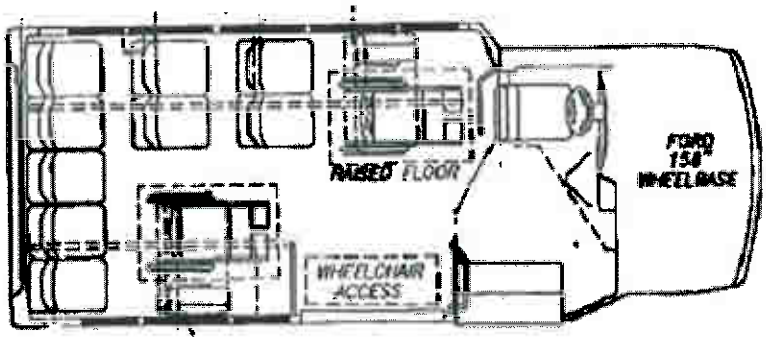
Type 1, Rear Lift



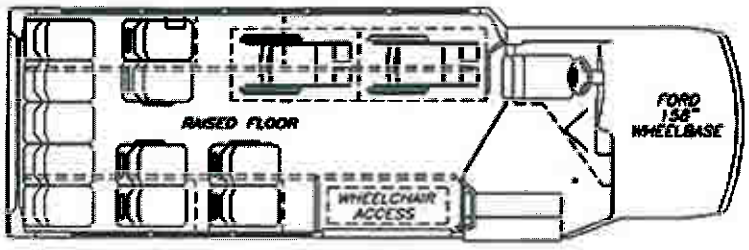
Type 1A, Front Lift



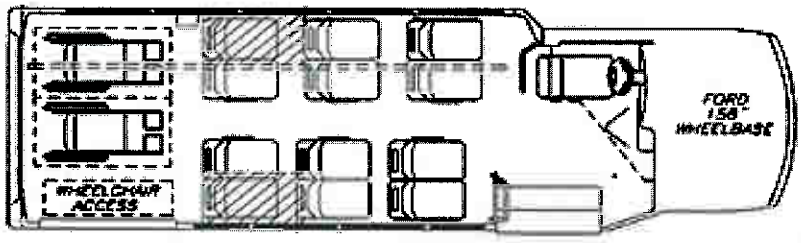
Type 1B, Front Lift



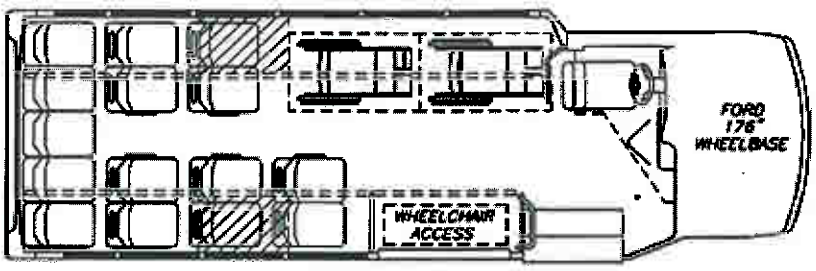
Type 2 Short, Front Lift, Choice of folding seat location. See Spec



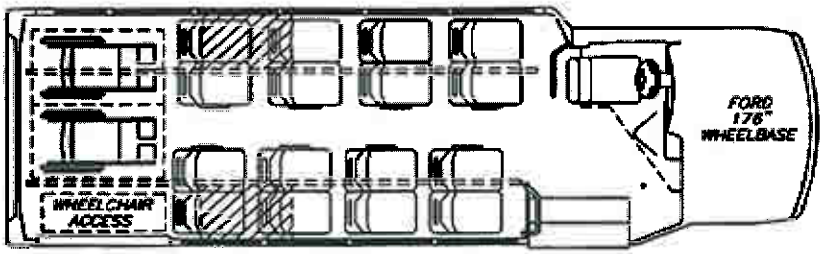
Type 2 Standard, Front Lift
2 passenger 3-way fold seat included, not shown
Location at buyer's choice. See Spec



Type 2 Standard, Rear Lift
Choice of 2 Passenger Flip seat or 3 way fold seat,
Not shown, See Spec



Type 3, Front Lift



Type 3, Rear Lift

11.0 CONTRACTOR REQUIREMENTS & NOTES

CHANGE ORDERS: This contract is subject to modifications or amendments by mutual agreement of the Contractor and the Department of General Services, Office of Procurement, in writing. Any such modifications or amendments will be set forth in a contract change order which will specify the changes to be made, including any adjustments in contract time or in compensation payable to the Contractor. Change orders shall be issued by the State Procurement Office. No exceptions to the specifications will be allowed unless the exceptions are listed on the purchase order or subsequent addendum.

WARRANTY: The warranty of each unit shall include the chassis, engine, drive train, modifications, etc., and shall be equal to the current OEM standard warranty and shall start on the date of acceptance. The Contractor will coordinate warranty issues during the standard warranty period for all OEM and conversion manufacturer products.

Each Contractor shall describe his/her policy and procedures concerning warranties, both on workmanship and material, as applying to this equipment, and the Contractor's/manufacturer's method of adjustment. The final stage manufacturer and/or Contractor shall assume the responsibility and warranty for all materials and accessories used in the vehicles, whether they are made by the manufacturer or purchased from an outside source for a minimum warranty of three (3) years or 36,000 miles. A copy of this warranty shall be provided for each unit at time of delivery. The warranty, as well as any recall notifications, shall cover each vehicle of the ultimate purchaser or recipient agency. The California Department of Transportation shall not be considered to be a dealer; however, the Contractor shall provide Caltrans a copy of any recall notice.

Any modification added to the base OEM vehicle that is required to be removed from the vehicle to perform warranty work will be at the cost of the Contractor.

All warranty repairs will be the responsibility of and under the control of the Contractor.

Fleet Defects: A Fleet defect is defined as the failure of identical items covered by the warranty and occurring in the warranty period in a proportion of vehicles delivered under this contract. For the purposes of this bid, identical defects occurring in 60% of the vehicles delivered shall be considered a "Fleet Defect". The Contractor shall correct a fleet defect under the warranty provisions. The Contractor then is responsible to maintain an up to date list of all vehicles and repairs preformed during the warranty period. Contractor will provide a summary of said list every 180 days to Caltrans, or upon Caltrans request. Contractor will perform inspections and take corrective action for all vehicles that incorporate the item having been found to be a " Fleet Defect". This inspection/repair action shall also be required on any vehicle that is no longer under the standard warranty if it still meets the time OR mileage requirements of the warranty.

SERVICE WARRANTY: Any recognized service or warranty work required, which is performed by the Contractor, under the Contractor's or manufacturer's warranty shall be at a location within the State and will be the responsibility of and paid for by the Contractor. This location must be within two hours travel time of the recipient's location or the Contractor must provide warranty work certification to a local shop capable of performing the work.

PARTS: An adequate stock of repair parts and qualified service facilities must be readily available in California, and must be available and delivered to the transportation providers repair shop within 72

hours of the time requested/ordered from the Contractor. The Contractor will bear all reasonable financial costs for providing backup service from alternative sources, for failure to provide repair parts within the 72-hour time limit; and will bear all such costs until the parts are received.

EXPERIENCE: Each bidder shall submit evidence of his/her ability and experience to provide the equipment described in these specifications with the bid, by including a list of five users' names, addresses, and telephone numbers who have been provided similar equipment on the same chassis from the same Contractor/manufacturer during the past two years. If a newly manufactured vehicle is bid, Caltrans will determine the acceptability and qualifications of the manufacturer, Caltrans' decision shall be final.

QUANTITY CONDITIONS: The number of units in this order indicates the best information available at the time of the bid preparation, however, all final amounts are subject to final approval of individual applications, and award of a grant by the Federal Transit Administration to the State of California, Department of Transportation, and are subject to the receipt of the necessary local matching funds. Contract quantities will be determined at the time the contract is awarded.

INSPECTION: The intent of this inspection is to resolve as many discrepancies, as possible, on the equipment and allow the manufacturer the opportunity to correct the discrepancies while the equipment is still in the manufacturer's plant and before shipment to California. The cost of these inspections will be paid by the agency identified on the purchase order. This inspection in itself will not constitute acceptance of the vehicle. Final acceptance will be made upon delivery of an acceptable product complying with the specifications at the designated location indicated on the purchase order.

Odometer reading cannot exceed 3,500 miles at the time of delivery of completed buses to the purchasing agency. There will be a charge of one dollar ($1.00) per mile for each vehicle with an odometer reading in excess of 3,500 miles payable to the purchasing agency at the time of delivery. Under no circumstances are tow vehicles to be attached to any buses.

Upon bid award, a preproduction meeting is required at the manufacturer's facility. The manufacturer(s) shall produce a pilot model that shall serve as a standard for the following units as ordered but shall not relieve the Contractor from an obligation to manufacturer all units in compliance with all specifications. The meeting will include, at a minimum, representative(s) from the successful manufacturer, dealer and representative(s) from Caltrans. For travel the contractor/manufacturer will pay the travel and perdeim expense for the Caltrans representative(s) to attend the preproduction meetings. Caltrans is to be notified in writing, a minimum of 30 days prior to meeting date. Travel expenses will be paid in accordance with Department of Personnel Administration regulations: Title 2, California Administrative Code, Chapter 3, Subchapter 1, Article 2.

The pilot vehicle will be available for inspection prior to the start of the meeting. The Contractor/manufacturer will pay the travel and perdeim expense for Caltrans' inspector and Senior Transportation Planner. Travel expenses will be paid in accordance with Department of Personnel Administration regulations: Title 2, California Administrative Code, Chapter 3, Subchapter 1, Article 2.

Vehicle's inspected at the manufacturer's plants, which do not comply with the specifications, will not be approved for delivery. Twenty (20) calendar days will be allowed to correct all deficiencies. Additional inspection trip's for compliance will be at the expense of the Contractor at the rates detailed above.

SERVICE: Prior to delivery, each vehicle shall be inspected and serviced by the Contractor or by an authorized dealer of the manufacturer in a service shop within the State of California. The service shall include not less than the following:

1. Complete lubrication of chassis, engine and operating mechanisms with manufacturer's recommended grades of lubricants.
2. Check all fluid levels and fill as necessary. This inspection must include engine oil, hydraulic oil, transmission fluid, coolant level and mixture, battery levels, brake fluid differential oil, washer fluid.
3. Complete wash and detail of the vehicle prior to delivery and inspection.
4. A four wheel alignment at final point of inspection is required. Wheel alignment must take place after delivery to the FOB destination and documentation of alignment settings for camber, caster and toe-in settings shall be furnished for the final inspection and must accompany delivery documentation to purchaser. Alignment information must include vehicle identification number.
5. Full tank of fuel at the F.O.B. point.
6. Alignment of headlights.
7. Check to insure proper operation of all accessories, gauges, lights and mechanical and hydraulic features. Particular attention shall be given to door alignment, lift operation, weather-stripping, hardware, paint condition and tagging of cooling system.
8. A copy of the pre-delivery inspection and all subsequent inspections by contract inspectors to be provided to the receiving agency upon delivery.
9. A certified four corner weight certificate to show the "as built" weight of the vehicle must be provided to purchaser for each vehicle. The vehicle must be full of fuel and all fluids and weighed with all equipment installed. The weight certificate must be included with the bus and available for review at time of inspection.
10. Cleaning of vehicle, and removal of all unnecessary stickers.

ACCEPTANCE: Final acceptance will be made upon delivery of acceptable products complying with the specifications at the designated locations in the purchase order and signature of acceptance by the agency listed on the purchase order.

Acceptance of delivery or placement in operation of any equipment shall not release the manufacturer from liability for faulty design, workmanship, or materials appearing even after final payment has been made.

VEHICLE REGISTRATION DOCUMENTS REQUIRED: The Contractor shall register all vehicles. A certification of compliance for vehicle emissions must be supplied at the time of delivery of each unit.

GENERAL: All equipment cataloged as standard for the basic vehicle, unless superseded by these specifications, must be furnished and included in the purchase price of each vehicle. Complete printed specifications, published literature, and photos, or illustrations of the basic unit or units that the bidder proposes to furnish with this bid must accompany each bid.

Bids will not be considered if the Contractor's designated F.O.B. delivery destination is other than that stated in the invitation to bid.

Bids will be considered only from a manufacturer having a California representative carrying an adequate supply of repair parts in the State of California. This representative shall have the capability of performing all warranty work in the State of California.

Bidder must furnish evidence with the bid that they hold a valid distributor agreement from the bus manufacturer or is the bus manufacturer.

The manufacturer shall provide full and competent engineering services to handle any, and correct all, problems associated with the performance of this equipment. At least one qualified service representative shall be available to render prompt service.

All equipment/options are to be factory installed. If the equipment/options are not available for factory installation, dealer installed equipment/accessories may be acceptable to meet the specifications. Any component added to the vehicle by the dealer must meet manufacturers approved instructions for additions. The bidder must specify in the bid those items that will be dealer installed.

Modifications to the vehicles may be performed by final-stage manufacturers only if National Highway Traffic Safety Administration certifies them and registered to manufacture or alter vehicles in accordance with the Code of Federal Regulations, Title 49, Parts 567-568. In addition, all modifications must be in accordance with the OEM guidelines for building on an incomplete chassis. The chassis may not be modified to alter the wheelbase. The vehicle manufacturer must be ISO 9001 certified and a copy of the certifications must be submitted with the bid documents.

Due to the critical nature of this product, the requirements of these regulations and standards will be strictly enforced. It is the **Contractor's responsibility to obtain current copies of the regulations for bidding and/or construction purposes**.

The Contractor is required to provide certification affixed to each vehicle that each unit meets or exceeds all State and Federal requirements as of the date of manufacture. CARB (California Air Resources Board) re-certification must be supplied for any components not supplied with the OEM chassis that effects the fuel or exhaust system.

The final-stage manufacturer will be required to provide all test data, drawings, etc., relating to the certification of the vehicle as an accessible vehicle.

Upon delivery, it shall be the supplier's responsibility to provide any evidence necessary that the product fully meets all requirements of this set of specifications.

INCOMPLETE CHASSIS ALTERATION: No alteration by a manufacturer to increase the chassis manufacturers stated GVWR will be allowed. In no case shall the chassis be modified to alter the wheelbase.

TRAINING SESSION (S): The Contractor, at their expense, shall provide a qualified service representative to provide training for operators and or, mechanics on the new vehicles when requested by the agency or procurement agent. The training shall consist of a combination of audio-visual aids and hands-on operation for the operators. The training will be held at the ship to location.

The training session shall provide, at a minimum, the following information:

a. Operation of the bus/minivan.
b. Review of shipping documents
c. Lift/ramp operation and maintenance
d. Air conditioning maintenance
e. Warranty procedures (coverage and reimbursement)
f. Specialty options information (i.e. Brake Retarder operation, echo vision)
g. Driver operated controls
h. Occupant restraint and securement system
i. Preventative Maintenance
j. Safety Procedures (emergency exits)

TRAINING VIDEO: Upon vehicle delivery, the successful bidder shall provide each recipient agency with a professionally made, technical training video. The video shall be no more than 30 minutes. Video shall be provided to Caltrans for review one month before preproduction meeting for approval.

a) Video Scope: The video shall review proper functional use of the vehicle, accessories, and options, including, but not limited to, proper techniques for deploying lift, mobility aid securement, opening/closing and maintenance of doors, operation of folding seat, etc.

b) Warranty Coverage: The video shall cover vendor warranty procedures, both chassis and conversion. Conversion warranty locations, contacts, and telephone numbers shall be identified.

c) Video Script, Draft and Approval: two months prior to the preproduction meeting, a video script shall be drafted and submitted to Caltrans for approval. Once approved, a video draft shall be filmed and approved by Caltrans prior to final production.

QUALITY OF MATERIALS: Whenever, under the contract documents, it is provided that the Contractor shall furnish materials or manufactured articles or shall do work for which no detailed specifications are set forth, the materials or manufactured article shall be of the best grade in quality and workmanship obtainable in the market from firms of established good reputation.

Welding procedures and materials shall be in accordance with standards of the American Society of Testing Materials and the American Welding Society. All visible welds shall be ground smooth. Where metal is welded, the contact surface shall be free of scale, spatter, and grease and shall be treated to preclude rusting.

INVOICE PAYMENTS: Manufacturers invoice(s) submitted to the agency identified on the purchase order for payment must include the tax exemption for handicapped equipment (California Revenue and Taxation Code Section 6394.4).

TIRE TAX: As a result of Senate Bill 876, effective January 1, 2001 there is a new Tire Tax that applies to new tires on new and used vehicles when those vehicles are leased, rented, or sold. Specifically the fee applies to new tires provided with

- A new or used motor vehicle (including spare tire)

- New or used construction equipment, or
- New or used farm equipment

When a vehicle is sold with new tires, the fee is due upon the retail sale of the vehicle. This new fee will be added to the invoice for all vehicles sold under this contract.